TRANSACTIONS

OF THE

CHICAGO SURGICAL SOCIETY.

Stated Meeting, December 1, 1905.

The President, Dr. D. A. K. STEELE, in the Chair.

COXA VARA.

DR. LOUIS A. GREENSFELDER presented a boy, aged 17, who two and a-half years ago first experienced a dull aching pain on the inner side of left knee and in the popliteal space, described as lasting about one-half hour. This recurred at irregular intervals, alleviated by long-continued immobility of the limb plus extended knee. Pain and limping for the first two or three minutes of walking. No other symptom, either local or general, noticed for about six months; then pain gradually ascended to the thigh, and in another six months—one and a half years ago—involved the left hip. The pain was sharp and cutting, intermittent, severe enough to compel patient to cry out. Shortening of the limb was now noticed sufficient to cause the patient to walk on the left toes and pad the heel with leather; at the same time, he found he could not separate his limbs widely; the left leg seemed fixed at the hip. Flexion of the thigh on the abdomen was also inhibited beyond a right angle. Atrophy of the hip region was now noticed by the patient and soon involved the thigh. Patient remained indoors a greater part of the time, and limping was pronounced. There was no tenderness, change in color, nor swelling noticed. The deformity and limp have remained stationary. Patient has led an outdoor life for the past six months, and is in splendid physical condition. There is a history of a slight traumatism. He recalls having been kicked by a horse two and a-half years ago, at which time the knee pain first began.

When the patient is in the recumbent position the left leg is in a position of eversion, but there is neither flexion nor abduction. Real shortening is apparent. Left gluteal region is smaller than the right. No lordosis. No skyphosis. Gluteal fold not obliterated.

Measurements.—1. Distance from top of great trochanter to Bryant's line, left 1⅜ inches; right, 3⅜ inches. 2. Distance from anterior superior spine to malleolus, left, 35⅜ inches; right, 37⅜ inches. 3. Top of great trochanter is two inches above the Rose-Nelaton line. 4. Distance from anterior superior spine to sacroiliac synchondrosis, left, 8½ inches; right, 11½ inches.

The X-ray picture illustrates the bending downward of the neck of the femur to a horizontal level and a posterior bending of the femoral neck.

DR. GREENSFELDER said that the cause of coxa vara may be due to late rachitis; juvenile osteomalacia; arthritis deformans. Frequently it is bilateral, and then it is associated with marked lordosis, simulating congenital dislocation of the hip. The disease occurs chiefly during the fourteenth and eighteenth years of the patient's life,—*i.e.*, the bone-growing period.

This patient was put to bed with a Buck's extension, which was continued for four weeks, with the internal administration of small doses of phosphorus; in the last two weeks massage and electricity have been employed. Limp and walk have materially improved.

DR. WALLACE BLANCHARD by invitation said that true coxa vara may be said to be characterized by a non-inflammatory softening of the neck of the femur, due to defective nutrition, and is accompanied or followed by a yielding to pressure and downward bending and torsion. In illustration he related the history of a case as follows:

The affection is bilateral and of the adolescent type. The patient, Mr. Geo. L., aged 21 years, is a native of Illinois. He belongs to a long-lived family and nothing that is pertinent can be found in the family history. He is slender and undersized. His height is five feet, four inches, and he weighs 130 pounds. His general health is excellent, and his habits are faultless.

He had diphtheria at the age of fourteen, and when convalescent a slight limp to the right became apparent, and from that time to the present there has been a steadily progressive shortening of the right leg. The right leg and thigh are markedly atrophic. The right gluteal crease lies one and one-half inches above the left. The right leg shows an adduction deformity of 30°, and a rotation out of 40°. The right trochanter is prominent, and over one inch above Nelaton's line. The flexion of the right thigh is restricted about one-third.

He wears a lift, one and one-half inches thick, under the right shoe, which just levels the pelvis. He habitually stands when in bare feet with the right heel elevated one and one-half inches from the floor. (Fig. 2). Measurements show that there is three-quarters of an inch of adduction shortening, and three-quarters of an inch of real shortening, as compared with the left leg:

In the left leg fifty per cent. of abduction is lost, and the trochanter major lies three-quarters of an inch above Nelaton's line, indicating a coxa vara bend downward of the neck, sufficient to reach a horizontal line, and giving approximately a real shortening of the left leg of three-quarters of an inch.

Since the real shortening of three-quarters of an inch of the right leg was found by comparing it with the left leg, which was already three-quarters of an inch short, it will readily be seen that the right leg has really a real shortening of one and one-half inches.

There has never been any pain or tenderness about either hip, except that prolonged standing produces a temporary feeling of soreness in the vicinity of the right hip-joint.

He walks with a decided limp to the right, nothwithstanding the lift of one and one-half inches under the right foot.

The patient has been under the observation of Dr. Blanchard for two years and the real shortening has increased somewhat in both legs, and the adduction deformity of the right leg has increased about 10° in that time. The case may therefore be considered as still in the progressive stage. He is employed at bookkeeping. He sits most of his working hours, and has to be on his feet only occasionally. He does not want to be hampered with extension hip splints, but is ready to submit to an osteotomy

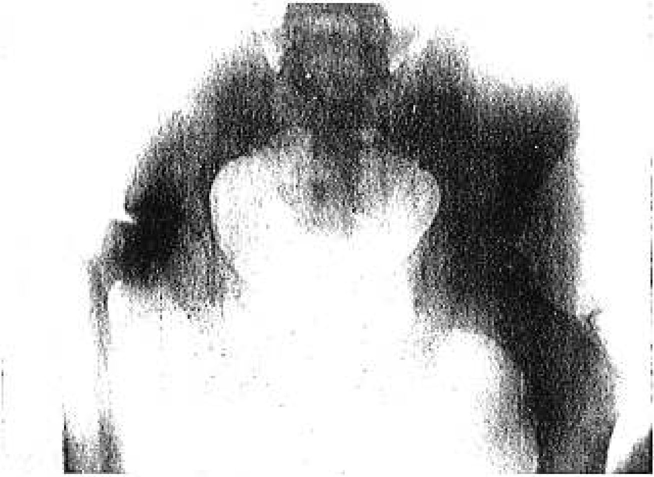

FIG. 1.—Showing the bending down of the neck of the femur in Greensfelder's case of coxa vara.

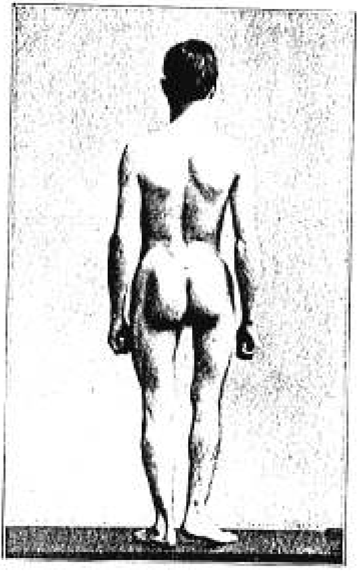

FIG. 2.—Bilateral coxa vara.

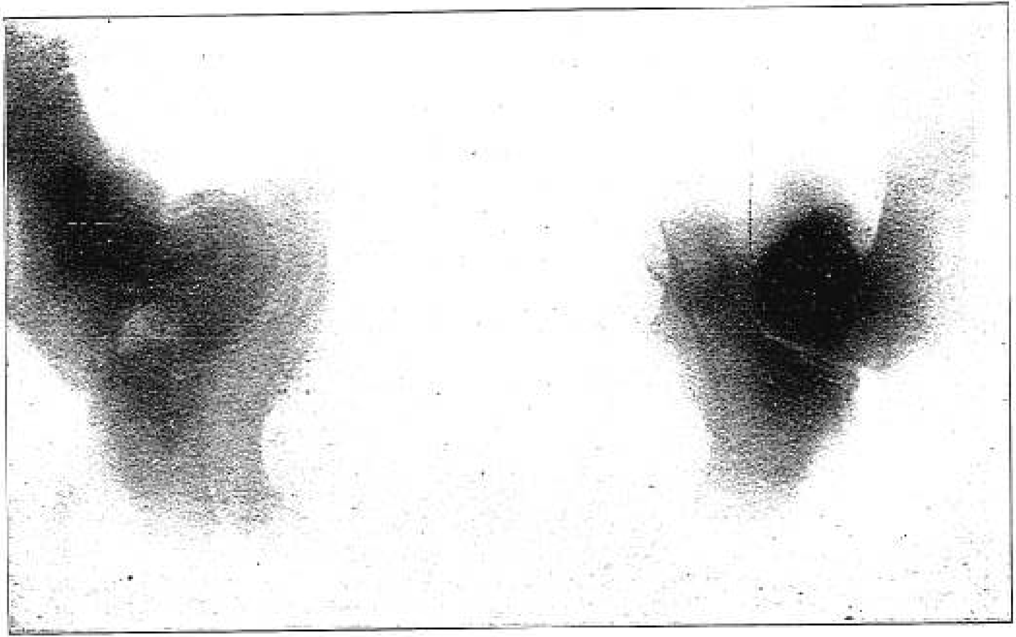

Fig. 3.—Skiagraph of a case of coxa vara. Dr. Blanchard.

for the correction of the adduction deformity of the right leg, as soon as he can be assured that the disease has run its course and that the femoral necks have reached firm bearings.

The skiagram shows the head of the left femur to be depressed, so that the neck lies in a horizontal position, making a right angle with the shaft, while the head appears to have retained its full rounded shape.

Much more grossly abnormal conditions are shown by the skiagram to exist in the head and neck of the right femur. The extracapsular neck has an inclination downward of some 65° from its normal position, and the inclination downward gradually increases in the intracapsular neck, until it reaches an obtuse angle with the shaft.

This distortion of the neck has reversed the direction and dislocated the head of the femur over the lower rim of the acetabulum until only the upper margin of the head lies within the socket. The upper half of the head has lost its rounded contour, and the upper half of the acetabulum appears to be filled with adventitious material. (Fig. 3.)

Altogether, this skiagram is a very remarkable picture of distortion from the normal shapes and relations, in and about the right hip-joint.

The history of the case leaves little doubt that the deranged nutrition and consequent softening and loss of resisting power in the femoral necks and head is of post-diphtheritic origin, and seems to sustain the views of Köhler that "the deformity is of such kind that it can be explained by the mechanical pressure, and tension effects on bone of yielding character."

The importance of diagnosis lies in the fact that subtrochanteric osteotomy is very successful in relieving the adduction deformity, and restoring normal locomotion, when operated after the coxa vara has ceased to be progressive.

Dr. Edward H. Ochsner said these two cases represented distinct types of coxa vara. Of the various cases he had seen he should be inclined to class these two cases in two distinct groups. The one demonstrated by Dr. Greensfelder made the impression of being a case of coxa vara due to traumatism. There was a great deal of doubt about this subject yet; but in looking at the X-ray prints carefully, one could not fail to notice great difference in the two specimens. In Dr. Greensfelder's case the neck had not suffered much in length; it was almost normal except that it tilted and was horizontal instead of being at an angle of 127°. There appeared to be less trouble also in the acetabulum.

In the other type of coxa vara, due to softening of the bone, there was usually marked deformity of the acetabulum, and accompanying that was a marked shortening of the neck. The bone looked as though it had been soft at some time and had been moulded during the soft period. The X-ray picture brought out this point very forcibly. All things considered, he was inclined to think traumatism had a good deal to do with the case reported by Dr. Greensfelder, while the one shown by Dr. Blanchard was evidently a case of static coxa vara.

DR. EDWIN W. RYERSON stated that from the normal position of the neck of the femur and normal acetabulum it would be reasonable to conclude that there was a separation of the head of the femur. He would consider it either a fracture or separation of the head of the femur and not a case of true coxa vara.

DR. JOHN L. PORTER agreed with Dr. Ochsner that there were two distinct groups of cases, and in a large percentage of them, if studied carefully, there would be found a history of injury but oftentimes only a slight injury. He had been surprised at the cases in which separation of the epiphysis of the femoral head had taken place with very slight traumatism. He had seen a number of cases of this kind of deformity at the Cook County Hospital, and in almost all of them the ages were between twelve and twenty, most of them being young men. The history was that of slowly progressing disability, with marked adduction and a good deal of pain in the groin, or of slight traumatism followed by pain in the groin. While the patients thought they were practically well, there was always some limping and marked adduction. He mentioned the case of a farmer's boy, aged fifteen, who in loading hay used the thigh as a fulcrum for the pitchfork. The patient felt a sudden giving-way in the groin. He fell down. The pain was intense for a few minutes, but he was able to walk home a distance of half a mile. He remained about the house for a few days, until the pain and disability subsided, and went back to work a week later, and while plowing stubbed his toe against a stone. The pain was so intense that he dropped in a furrow and had to be taken up and carried home. He was in bed three months, and an X-ray picture taken a year or more afterwards showed typical separation of the epiphysis of the head of the femur, with a bending downward of the neck, the epiphysis being caught above the acetabulum. Coxa vara was marked in this case. Adduction was marked, so much so that the only way to get the heel on the floor was by putting it over the other foot. Patient walked with marked limp. The more he studied these cases, the more carefully he looked for history of slight traumatism.

He had taken recently an X-ray of one of these cases within two days after the injury. The patient, a girl, thirteen years of age, in running about the house, bumped against a corner of a table or door, and experienced some pain, which lasted a few minutes, then passed off. She went about as well as she ever did for about forty-eight hours; then the parents noticed her limping, and she began to have pain in that hip. After making a tentative diagnosis of separation of the head of the femur, the X-ray picture showed a little gap at the line of epiphysis in the head, and by putting the leg up in extreme abduction and keeping it there, apparently she was getting well. The abduction was not limited.

He believed up to the time of the advent of the X-ray apparatus, surgeons mistook a large number of these cases for hip disease. Many of these cases of coxa vara had traumatic separation of the epiphysis, and he had been astonished, the more he saw these cases, at the small amount of traumatism which it took to separate the epiphysis at the head of the femur during adolescence.

Dr. Daniel N. Eisendrath had seen the boy with Dr. Greensfelder, and concurred with him in the diagnosis of true coxa vara. He thought if the members studied the X-ray print carefully they would see that such a position was well taken. The condition was to be seen better in the print than on the plate itself. It was a rather unusual point for an epiphyseal fracture to occur. In the opposite limb, the left one, the epiphysis was at a point just back of the rotundity of the head. The X-ray showed a light shadow mixed with a dark one. This was the place where epiphyseal fractures ought to occur; but it would seem rather unusual to have a fracture of the neck of the femur where a fracture of the epiphysis would be so much easier to take place.

Another point which seemed to him to confirm the diagnosis of coxa vara in this case was, that the head itself was flattened out. This showed that the head must be soft. Not only was the head softened and flattened, but there was compression or flattening of the lesser trochanter; so that the position taken by some of the speakers that the case might be one of epiphyseal fracture instead of coxa vara was not well taken.

Dr. M. L. Harris said we should distinguish between two classes of cases, those which were static in their origin, and those which were traumatic. In the static variety there was a disproportion between the weight to be carried and the strength of the neck. This was known to be due to lack of strength in the neck, and there were several causes for it. The yielding was not only a gradual one, but it was more or less uniform. It never yielded at an acute angle of the length of the bone, but it was a uniform and gradual yielding. There was in almost all cases not only a yielding from above downward, but also from before backwards and there were evidences of weakness of some of the other structures. For instance, flatfoot was present in a large number of cases.

In the traumatic variety, while there was descent of the head and neck, many cases were not, strictly speaking, true coxa vara in the sense of being static. He could not agree with Dr. Eisendrath in regard to the interpretation given the skiagraph, as there was a distinct, sharply defined, marked angularity of the neck of the femur, a thing which one rarely or never saw in a case of true coxa vara. He also could not agree with Dr. Eisendrath that the epiphyseal line was the weakest point of the bone and that separation of the epiphysis occurred in preference to fracture of the bone. Epiphyseal separations are the great exception in comparision with fractures.

In these cases the bone yielded in preference to the epiphyseal line. The fact that the head was deformed was further evidence that there had been a traumatism and a fracture, causing the spreading-out of the head. The line next to the trochanter was something we did not see in cases of coxa vara. He believed the case was distinctly one of traumatism to the head and neck of the bone and was not a true case of static coxa vara.

Dr. Wallace Blanchard could not agree with Dr. Eisendrath that separation should occur through the epiphysis. His experience in fractures close to the epiphysis was that they never occurred where they should. Of some eight hundred cases, of osteoclasis in two-thirds of which the epiphysis was under pressure, in only one was there separation of the epiphysis. If there was any opportunity at all, the fracture would occur outside and away from the epiphysis rather than in the line of the epiphysis.

In the skiagram of true adolescent coxa vara submitted by him a gradual bending would be seen,—not an abrupt bending, but a gradual giving-way, and this was what he called true coxa vara resulting from a non-inflammatory softening of the bone, gradual bending and giving-way without selecting any particular location or angle, or any one point of the bone.

Hoffa and many others had insisted that a large number of cases of coxa vara were of traumatic origin, but these were clearly proven to be of a different class. They were not true cases of coxa vara. He would not class the case of Dr. Greensfelder as one of true coxa vara, but rather as one of impacted fracture. He had seen cases in which the fracture started in the epiphysis, left the epiphysis, and went down the neck.

Referring to the case reported by himself, Dr. Blanchard asked whether there was a time when we could say to a patient we could do osteotomy, correct the adduction deformity, and assure him that another operation would not be required to correct another deformity which might occur from the further progress of the disease? Could we at any given time safely say to the patient when we operated, that this was the only operation that would be necessary?

SUBPHRENIC ABSCESS.

Dr. Daniel N. Eisendrath presented a patient upon whom he had operated for right-sided subphrenic abscess following appendicitis, with the following history:

Patient, an Italian, had been operated upon for an appendiceal abscess one year previously by some surgeon whose name he was unable to learn. The patient was admitted to the service of Dr. Eisendrath at Cook County Hospital, on September 19, 1905, with a history of having had a severe pain in the epigastrium for one week. His temperature, upon admission, was 103°. There was an area of dullness extending almost transversely around the chest from the level of the fourth rib downwards, merging into the hepatic dullness. A needle was inserted in the post-axillary line in the sixth interspace, and fetid pus obtained. The sixth rib was resected in the post-axillary line, but the pleural cavity found empty. This operation was performed by one of the house surgeons under local anesthesia. When the case was first seen by Dr. Eisendrath, the patient had been having a high temperature for five days, so that a second thoracotomy was undertaken in the anterior axillary line, a portion of the eighth rib being removed, and an encapsulated empyema was found lying between the inferior surface of the right lobe of the lung and the upper surface of the diaphragm, the so-called diaphragmatic empyema. It was thought that this second operation would prove sufficient, but following it the patient's temperature continued to rise and he having become septic, a third resection was deemed advisable. This third operation was performed by resecting a portion of the tenth rib in the anterior axillary line, when a large subphrenic abscess containing about a pint of very fetid pus was opened. Following this drainage the patient made a rapid recovery.

The case was undoubtedly one of subphrenic abscess complicated by an encapsulated diaphragmatic empyema, the etiology of which was in all probability due to the suppurative appendicitis of the previous year.

MACROGLOSSIA.

DR. EISENDRATH exhibited a boy of four, whose tongue at the time of birth was so large that it protruded from the mouth. When first seen, about six months prior to his presentation before the society, the case having been referred by Dr Nance, the tongue was very large and its surface covered with innumerable pinhead-sized and somewhat larger vesicles containing a clear fluid. In addition there were a great number of papillary projections composed of hyperplastic epithelium, resembling somewhat an icthyosis hystrix of the skin in its appearance. The case showed a combination of the superficial or capillary and deeper or larger forms of lymphangioma.

The case was treated in a conservative manner by simply cauterizing with the Paquelin cautery all of the superficial vesicles, instead of performing a radical extirpation of the entire lymphangiomatous area. The case had improved greatly since the time of the operation, and the tongue had become much smaller. He believed that this conservative treatment, the simple use of the cautery, was preferable in many cases to the risk of hemorrhage by resecting the diseased area.

DR. A. J. OCHSNER drew attention to a method which had been practiced by many surgeons of making a temporary ligature of the tongue by tranfixing it at its base with a needle, threaded with a double piece of silk, tied to each side, and then the portion which one desired to remove was excised, the vessels ligated, and the two sides sutured together, the stump finished, and the temporary ligatures removed, so that one could give the tongue any form desired without any risk whatever. It was a simple matter to do this. This treatment was rapid and satisfactory.

BRANCHIAL CYST.

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DR. EISENDRATH also presented a patient from whom he had removed a right-sided branchial cyst about two months previously. When the patient first presented himself he had a soft, fluctuating swelling, located in the submaxillary region, over which the skin was freely movable, but it was attached firmly in its deeper parts. The patient was thirty-five years of age, and gave a history of having had the swelling for the past ten years, during which time it had been tapped a number of times. At the time of operation the cyst was found to be firmly adherent to the deeper structures. It had no connection with the pharynx. It was located in the angle between the upper end of the sterno-cleido-mastoid and the lower border of the lower jaw. It was about the size of an egg, and contained a yellowish turbid fluid, with cholesterin crystals. Microscopically, it showed a stratified epithelium corresponding to the mucous membrane of the pharynx as well as a number of mucous glands and lymphoid tissue, showing its origin had been from the pharyngeal end of the second branchial cleft.

FRACTURE OF THE UPPER END OF THE HUMERUS.

DR. EISENDRATH showed a patient with an impacted fracture of the neck of the humerus. The patient fell on the outstretched hand. When first seen there was inability to use the shoulder, but no external deformity. There was slight crepitation, which was probably due to the fact that the impaction was an imperfect one. The exact nature of the injury was not determined until an X-ray examination had been made. This showed that the lower fragment had become impacted into the upper seat of the fracture, corresponding with the surgical neck of the humerus.

He had been unable to find any reference in books to this variety of fracture, with the exception of Hoffa's, in which a similar fracture was illustrated.

He demonstrated the use of moulded plaster-of-paris splints in connection with fracture of the humerus.

ADVANCED RAYNAUD'S DISEASE.

Dr. Eisendrath exhibited a case of advanced Raynaud's disease, in which amputation of one toe on the right foot and three toes on the left foot had become necessary on account of gangrene. The remaining toes still showed the bluish discoloration characteristic of this disease. The internal treatment had been of little avail to prevent the onset of gangrene. The patient had received nitroglycerine, 1/100 of a grain, three times daily, with a view to dilating the peripheral arteries several months while under the treatment of Dr. A. D. Kohn, by whom the case had been referred. This remedy had been combined with the application of a rubber constrictor, but both of these had but little influence in diminishing the pain or preventing the onset of gangrene.

He thought it was of great importance to recognize these cases early, both in the fingers and toes, the characteristic feature being a bluish discoloration which became more intense when the parts were exposed to the air.

"ISCHEMIC ATROPHY, CONTRACTURES AND PARALYSIS."

Dr. Alexander Hugh Ferguson read a paper with the above title (for which see page 598).

Dr. A. J. Ochsner said that there was one point in connection with the subject of this paper which was under-estimated, and that was the possibility of producing tendons from almost nothing, tendons which would be useful to the patient. The worst case he had observed, and he had seen many in which it was possible to produce tendons, was one in which the hand of a brakeman was caught between the bumpers of freight cars, sepsis ensued, and the extensor tendons were removed during the treatment of the septic condition. The patient came without any extensor tendons of his right hand. The ends were found the surface laid open, and artificial tendons were produced by means of chromicized catgut, varying in length from ten to fifteen centimeters. The man was willing to undergo this experiment without any promise of success. The man was still in the employment of the railroad company, and had a useful hand. The action secured in Dr. Ferguson's case by splicing the tendons was not surprising, and it made us more hopeful in tendon surgery.